

CHAPTER VIII TRAFFIC CONTROL DEVICES

This figure contains a summary of traffic signal warrants. It is to be used with Subsection 8-02.3 and the Manual for Uniform Traffic Control Devices (MUTCD)

WARRANTS 1 AND 1A - EIGHT-HOUR VEHICULAR VOLUME							
CONDITION A – MINIMUM VEHICULAR VOLUME							
Number of lanes for moving traffic on each approach		Major Street 8 th Hour Total for both approaches			Minor Street 8 th Hour Higher volume approach-one direction only		
Major Street	Minor Street	100%(a)	80%(b)	70%(c)	100%(a)	80%(b)	70%(c)
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

WARRANTS 1 AND 1A - EIGHT-HOUR VEHICULAR VOLUME							
CONDITION B - INTERRUPTION OF CONTINUOUS TRAFFIC							
Number of lanes for moving traffic on each approach		Major Street 8 th Hour Total for both approaches			Minor Street 8 th Hour Higher volume approach-one direction only		
Major Street	Minor Street	100%(a)	80%(b)	70%(c)	100%(a)	80%(b)	70%(c)
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

WARRANT 3 - PEAK HOUR													
CONDITION A – MINIMUM VEHICULAR VOLUME													
Number of lanes for moving traffic on each approach		Major Street Total for both approaches						Minor Street Higher volume approach-one direction only					
		100%(a)		80%(b)		70%(c)		100%(a)		80%(b)		70%(c)	
Major Street	Minor Street	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.
1	1	1,500	1,250	1,200	1,000	1050	875	563	413	450	330	394	289
2 or more	1	1,800	1,500	1,440	1,200	1260	1050	563	413	450	330	394	289
2 or more	2 or more	1,800	1,500	1,440	1,200	1260	1050	750	550	600	440	525	385
1	2 or more	1,500	1,250	1,200	1,000	1050	875	750	550	600	440	525	385

WARRANT 3 - PEAK HOUR													
CONDITION B - INTERRUPTION OF CONTINUOUS TRAFFIC													
Number of lanes for moving traffic on each approach		Major Street Total for both approaches						Minor Street Higher volume approach-one direction only					
		100%(a)		80%(b)		70%(c)		100%(a)		80%(b)		70%(c)	
Major Street	Minor Street	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.	1 Hr.	2 Hr.
1	1	2,250	1,875	1,800	1,500	1575	1313	281	206	225	165	199	146
2 or more	1	2,700	2,250	2,160	1,800	1890	1575	281	206	225	165	199	146
2 or more	2 or more	2,700	2,250	2,160	1,800	1890	1575	375	275	300	220	263	193
1	2 or more	2,250	1,875	1,800	1,500	1575	1313	375	275	300	220	263	193

(a) Basic minimum hourly volume

(b) May be used for combination of Conditions A and B. Same eight hour period for each condition is not required.

(c) May be used when the posted speed limit or field measured 85th-percentile speed on the major street exceeds 40 mph [60 km/h], or when the intersection is located in a community having a population of less than 10,000.

Warrants for Traffic Signals

CHAPTER VIII TRAFFIC CONTROL DEVICES

WARRANT 4 - PEDESTRIAN VOLUME (Lowest hour of 8 highest hours)								
Major Street No median or median less than 1.2 m (4') wide Total of both approaches			Major Street Median 1.2 m (4') or more in width Total of both approaches			Pedestrians Higher volume crosswalk Crossing Major Street		
VPH	80% Value(a)	70% Value	VPH	80% Value(a)	70% Value	PPH	80% Value(a)	70% Value
600	480	420	1,000	800	700	150	120	105

(a) 80% value not used for Warrant 4. Use only for Warrant 7.

WARRANT 5 - SCHOOL CROSSING

This warrant is satisfied when the number of adequate gaps in vehicular traffic is less than the number of minutes in the time period that students are using the crossing. See the MUTCD for additional guidance.

WARRANT 6 - COORDINATED SIGNAL SYSTEM

This warrant is satisfied when:

- (a) On an isolated one-way street or on a street within a system which preponderantly has unidirectional traffic significance, adjacent signals are so far apart that the desired degree of platooning and speed control of vehicles would otherwise be lost.
- (b) On a two-way street within a system, adjacent signals do not provide the desired degree of platooning and speed control; and the proposed and adjacent signals can constitute a progressive signal system.

WARRANT 7 - CRASH EXPERIENCE

This warrant is satisfied when all of the following are satisfied:

- (a) Adequate trial of less restrictive remedies with satisfactory observance and enforcement has failed to reduce the accident frequency; and
- (b) Five or more reported accidents of types susceptible to correction by a traffic signal have occurred within a 12-month period, each accident involving personal injury or property damage to an apparent extent of \$100 or more; and
- (c) Value required to satisfy Warrant 1 or Warrant 4 is met to 80 percent.

Warrants for Traffic Signals